Nutrient Assessment Framework

Discussion of Proposed Workplan

Purpose of Today's Discussion

- Discuss nutrient assessment workplan
- Provide your feedback, focused on **process**

Background and Context

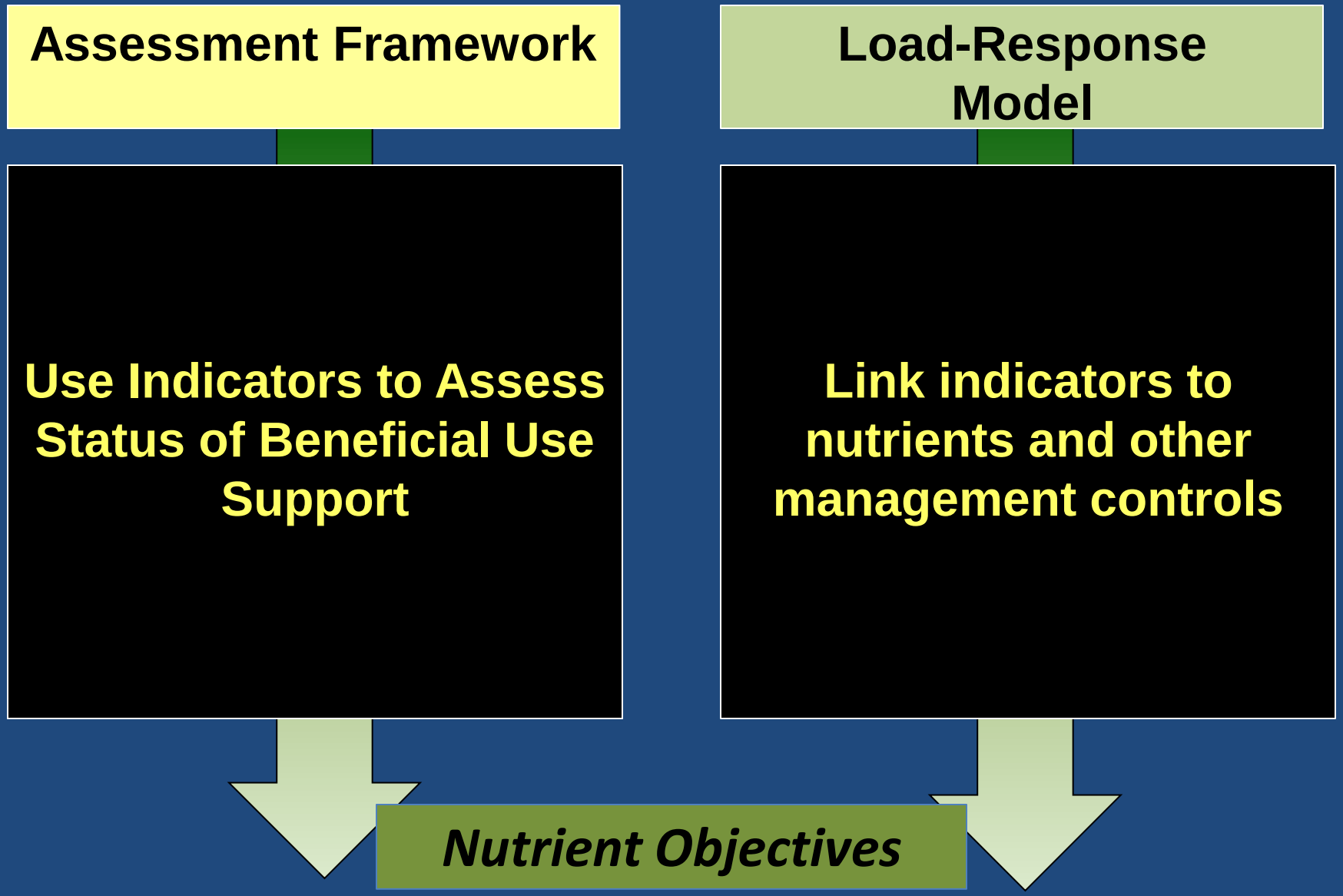
- **McKee et al. (2011) literature review recommended a suite of indicators to assess adverse effects on Bay beneficial uses (BU), focused on subtidal habitat**
  - Phytoplankton
  - Nutrient forms and ratios

- **We need a decision framework that describes how to use these indicators to assess whether SF Bay BUs are protected**
  - Transparent
  - Supported by best available science

What is An Assessment Framework?

- **Decision support**
  - Transparent
  - Peer-reviewed
  - Capacity to evolve framework as science advances
  - Indicators, metrics & endpoints may differ by Bay segment or season
- **Key components**
  - Supported by SF Bay conceptual models
  - Specifies what to measure, temporal and spatial frequency in which those indicators/metrics should be measured
  - Specifies how to use datato categorize the Bay (or segments of the Bay) in “risk categories”
- **Assessment frameworks do not:**
  - Specify regulatory thresholds – that is a policy decision

SF Bay Nutrient Objectives: Two Major Technical Components



Concept Approach

- Use experts to craft assessment framework based on available science & best professional judgment
- Decision on regulatory endpoints is made by SF Water Board, with advice from stakeholders

Proposed Process to Develop Assessment Framework

- **Begin with conceptual models**
  - Identify indicators, linkages to beneficial uses at relevant spatial and temporal scales
- **Review available assessment frameworks**
  - White paper that synthesizes approaches, data required
- **Utilize those frameworks with existing SF Bay data (if available) to demonstrate applicability**
  - Inform decision-making
- **Utilize demo results, in tandem with conceptual models, to craft strawman framework with experts**
  - Demonstrate with existing data
- **Vete and refine assessment framework (…repeat)**

Who Are The Experts

- **International experts in assessment frameworks:**
  - Suzanne Bricker (NOAA)
  - William Dennison (University of Maryland)
- **Recruiting local experts in SF Bay nutrient biogeochemistry and eutrophication, but not limited to:**
  - Jim Cloern
  - Dick Dugdale
  - Raphe Kudela
  - Wim Kimmerer
  - Anke Mueller-Solger

Stakeholders Involved At Each Step in The Process

- **Workplan**
  - Focused on process
- **White paper**
  - Provide feedback before first expert workshop
- Analysis of existing data
  - Comments on data analysis plan
  - Feedback, comment on results
- Draft assessment framework
  - Comment on approach
  - Comment on substance in various drafts

Schedule

- Scoped currently as 2-yr project (October 2013- October 2014)
- Tasks:
  - Develop work plan (Fall 2012)
  - White paper and first expert workshop (Spring 2013)
  - Analysis of existing data (Fall 2013)
  - Create draft strawman assessment framework (Spring 2014)
  - Draft final assessment framework (Fall 2014)

Schedule of interim deliverables are approximate